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ABSTRACT

This paper considers the problem of planning in higher education from several different points of view. First, educational planning as it relates to problems at the national level is discussed. This includes the question of a national educational policy, projections of the demand for higher education, the financing of higher education, politics and higher education, and the influence of change on institutions of higher education. Second, various facets of educational planning at the level of individual institutions is explored. Third, some specific techniques which can be used in connection with planning are suggested. These include: systems analysis, operations research, mathematical models, and econometric analysis. And fourth, there is a brief discussion of instructional technology. (AF)

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PLANNING DILEMMAS IN HIGHER EDUCATION*

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I. INTRODUCTION

In this paper I will consider the problem of planning in higher education from three different points of view. First, I will consider educational planning as it relates to problems at the national level--that is to say, the impact of various problems of population growth, the influence of growth in the total national product, the implication of changing demands for professional and other skilled personnel, and demands that will be exerted by our changing culture. All of these have their effect on individual institutions, but their sources and impact are of a national or regional character and cannot be controlled by any single institution. Secondly, I will discuss various facets of educational planning at the level of the individual institution. I will try to relate these local considerations to the influence of planning at the national level. Finally, I will discuss some of the implications of technology as it relates to planning and instruction at both the national and the individual institutional level.

II. EDUCATIONAL PLANNING AT THE NATIONAL LEVEL

National Education Policy

Social planners and macroeconomists tend to look upon education and training as one of the many components making up our total national socioeconomic picture. In this sense, educated and trained manpower is simply one of the many national resources which can be manipulated in planning the future. Considerations of manpower and education have importance as they affect the deliberations of various national policy organizations, such as the President's Economic Advisors or the Joint Economic Committee of Congress. In theory, education as a component of the total economy can be treated like any other major component requiring national policy. Ralph Tyler (10) has recently advised that Congress should declare a National Educational Policy as it has declared a National Full Employment Policy.

Recently the publisher of Science called for a statement such as has been suggested. He said, "The substantial amount of uncertainty that exists concerning future plans, future funding levels of research, and for scientific activities suggests that it would be useful to have an authoritative statement of science policies of the Federal Government." (3) In a letter addressed specifically to the President of the United States he suggests that the President formulate such a statement, and he offered the pages of Science as a suitable way of disseminating such a statement of national policy. Currently the Federal Government supplies over $3.5 billion annually to institutions of higher education. This makes up almost a quarter of the support for educational purposes in all fields of higher education and a much

HE 001 578

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the interaction between them is not as obvious as it would seem to be.

Politics and Higher Education

Since the majority of students in higher education are being trained in public institutions, it is inevitable and proper that politics should play an important role in the control of institutions of higher education. I used "politics" here in the sense of public institutions being under public control. Political officials, whether serving the public through election or through appointment, are subject to the reactions and attitudes of the general public. Those responsible for the planning for institutions of higher education cannot ignore the influence that political considerations will have on their ability to carry through their plans. We are in a period of great change, and many argue that institutions of higher education have been lagging behind in their response to this change. One would do well to ponder the experiences of some in trying to establish new and different educational institutions to serve the underprivileged (8). At least one experience in New York City shows that that city and state do not yet seem to be responsive to the community needs as expressed through representatives of underprivileged groups.

The Influence of Change on Institutions of Higher Education

In the paper I mentioned earlier in this paper, Tyler (10) presents a wise discussion of structural influences on higher education. He lists a number of major factors which should lead to change in the nature of our higher education system. First, he points to the increasing demands of our society that many people be given the opportunity to be employed in technical, professional, managerial, and service occupations. More and more these occupations require specialized training. It is the function of the colleges and universities to supply that training. This leads to a reorientation in the functional role of the college faculty.

A second major dilemma which will become more apparent as the decade advances is the relationship between the function of teaching and the function of research in institutions of higher education.

Thirdly, it is argued that the public in general will start exerting greater influence on the operation of our higher educational institutions. They will do this particularly because of the demand for more highly trained people.

Fourth, Tyler lists the increasing importance of the differential allocation of financial resources. More and more institutions of higher education will be required to justify their expenditures of public funds. This will require the preparation of functional budgets that can be subjected to cost-benefit analyses.

Finally, there is the emphasis on the increasingly important role of the student. In the past, educational policy has, to a very large extent, been determined by the faculty. As more and more students enter institutions of higher education and as more and more people become concerned about the functional utility of these institutions, the importance of the student and the public will make itself felt increasingly.

These, then, are some of the influences which affect planning for higher education at the national level. Statements of national policy, of growing populations, of changing financial arrangements, of the greater influence of public control and politics, of change as it influences our total society, all reflect on national programs and policies which must be taken into account in the educational

planning of individual institutions.

III. EDUCATIONAL PLANNING AT THE INSTITUTIONAL LEVEL

The preceding material relates to educational planning at the national, regional, or state level. Clearly, those responsible for the overall financing of education must prepare their plans in terms of the items listed above. But these considerations are of relatively little help to the planner at a specific institution unless, as is the case in some state multi-universities, a master plan has been laid out for the whole state. When the individual university is faced with a problem of long-range planning, it must consider the general trends outlined above, but it must also take into account a number of characteristics which are unique to its particular situation.

Recently I discussed the problem of long-range planning with a dean of a major institution where I was once a faculty member. This institution is fortunate in having a very sizable endowment--at the time I taught there it had the largest endowment per student of any private institution in the country. Since then it has markedly increased its endowment, and I asked the dean whether they now had a long-range plan for the development of the university. He reported that they did, indeed, have a long-range plan; that there was a staff officer reporting to the president who was responsible for this plan, and that it had been developed over a period of years with the active cooperation of the faculty, students, and trustees. As a result of this plan, a number of things were being accomplished. First, agreement had been reached as to the fundamental nature of the institution. It resolved to retain its position as a major university offering quality education to a relatively restricted number of students. The number of students it expects to accommodate has been defined with year-by-year projections for ten years. On the basis of this fundamental statement of the goals, the university had proceeded to take a number of steps. For example, although the campus was relatively adequate, it was felt that it needed to be enlarged to accommodate the buildings required for both the increase in student enrollment and an increased emphasis and specialization in certain well-defined disciplines. Related to the acquisition of new land and the goals of the institution, a building program had been laid out for ten years, with the nature of the buildings defined and their placement on the total campus determined. The question of a moderate increase in enrollment had been considered in detail and the geographic origin of the student body had been determined. In view of the overall goals of the institution, the nature of the new disciplines to be emphasized was agreed upon and the faculty was being recruited to build outstanding competence in these particular areas. However, not all areas were being strengthened equally. Deliberate decisions have been made that the institution would try to become preeminent in certain defined fields, but it recognized, in terms of its private character and overall financial resources, that it should not try to be a leading institution in all areas of study. In view of its aspirations for great excellence in given areas, an emphasis was placed on research and scholarship. The faculty understood the responsibilities they had, not only with respect to teaching, which was a matter of prime importance, but with respect to research and scholarship. Although this institution felt some responsibility to the surrounding community, it did not feel that this was one of its major obligations. When service to the surrounding community was consistent with the educational program of the institution, it contributed community services.

In theory, every institution should have plans such as the one I have described. Unfortunately, too many institutions find themselves in the position where their financial resources are uncertain and they must depend, to a

considerable degree, on public support. Also, public institutions find that they cannot develop plans for the future by themselves but rather must integrate these plans into the needs of the local community and frequently the dictates of larger state plans. Nevertheless, every institution should try, within its particular degrees of freedom, to develop ten-year or longer plans dealing with the fundamental nature of the institution, resources required, type of instruction to be covered, students to be accommodated, type of faculty needing development, and the relationship between teaching, research, and service to the community.

I hardly need add that for an institution to progress in a systematic way it should actively undertake the kind of planning discussed. Almost without exception, the institution must have a formal mechanism for undertaking planning. Usually this mechanism will reside in a specified staff office reporting directly to the senior executive officer of the institution. Perhaps there will be a Vice President for Planning or there will be an Office of Planning headed by a senior professional. I mention this because too frequently administrative officers recognize the need for planning but fail to provide the necessary organization and support to undertake it. If plans are vague and general they will not serve the institution, and in the long run they will lead to chaotic and wasteful changes, rather than to planned development.

IV. TECHNOLOGY AND PLANNING

So far the discussion in this paper has related to the general conception of planning at the national and institutional level. It seems appropriate to consider a few specific techniques which can be used in connection with planning for higher education.

1. System Analysis

Recently I (12) have discussed the schematic steps involved in undertaking a system analysis and have reviewed their application relative to several training programs. Without too much modification, these same steps can be used for planning the future of an institution of higher education. Indeed, in many ways system analysis is ideally suited to outlining procedures and a series of logical steps which should be undertaken in educational planning. As I discussed in that article, system analysis by itself does not consist in any new special techniques which allow the analyst to arrive at exceptionally valid conclusions; rather, it is the systematic, careful, and logical approach in trying to analyze the problems and possible solutions to a particular problem area.

2. Operations Research

Operations research is closely akin to system analysis. It tends to emphasize the analysis of data through a mathematical approach. Recently Mood (13) has presented a very interesting example of the application of some operations research techniques in determining the relative contributions of teachers, facilities, and students in educational achievement.

3. Mathematical Models

Increasingly in macroeconomics and in analyses of input-output relationships, mathematical models are built to allow computer simulation of the outcomes of change in the parameters in the model. Wurtele (14) has recently examined the use of mathematical models for educational planning. She concludes that there are formidable methodological and statistical obstacles to the development of adequate

mathematical planning models. Nevertheless, she feels that as the art of mathematical modeling progresses and as we have better definition of the relationships among the factors influencing the effectiveness of higher education, the use of such models will prove to be of considerable benefit to educational planners.

4. Econometric Analysis

In the last few decades the new specialty of econometric analysis has matured. Such analyses are partly concerned with the contributions of skilled manpower to total economic output. Also considered are the social and economic costs associated with the educational establishment and the extent to which these costs are diverted from other possible productive uses. The whole area of econometric analysis is highly developed and complex science using mathematics of considerable sophistication.

V. INSTRUCTIONAL TECHNOLOGY

All projections of student enrollment show that there will be a vast increase in the next few decades. But projections of costs and expenditures show that they will rise much faster than the increase in enrollments.

Many have suggested that new advances in instructional technology offer a promising hope of increasing the productive efficiency of the educational establishment. Past performance lends little credibility to this hope, but nevertheless it is my feeling that the institutions of higher education must change their willingness to accept some of the implications of modern technology for student instruction. Perhaps the best example of this is in the area of instructional television. Recently Schramm and Chu (17) have reviewed the research on the effectiveness of educational television. My general impression is that research done in this area shows that instructional television can be just as effective, in terms of the amount that students learn, as is traditional instruction as practiced in the vast majority of institutions of higher education. It can similarly be shown that such instruction, if adopted on a large scale, is more cost effective than current methods of instruction. Yet it is apparent that instructional television has not had had a significant impact on the educational scene. It is true that there are still inadequacies in instructional television. The number of validated instructional programs is still meager. But, nevertheless, it is my belief that the fundamental reason instructional television has not been widely adopted is due to the essentially conservative and trade-union attitudes of the faculty itself. The educational faculty has adopted a set of beliefs regarding the effectiveness of the lecture and classroom instruction which are based more on faith than on evidence. In a protectionist sense there has been an insistence on faith than on continuation of the traditional faculty role in instruction. Unless forced to by administrators and taxpayers, the faculty is not likely to change its role. Thus instructional television, even though effective, will have relatively little impact on institutions of higher education unless strong external pressures are brought to bear.

The same comments cannot yet be made regarding computer-aided instruction. It is not clear that the technology has yet advanced to a state where computer-aided instruction can be of great benefit in the instruction of students. Nevertheless, the long-range future of computer-aided instruction should not be discounted. The work of Suppes (18) at Stanford is a good example of the way in which computer-aided instruction can be used not only in the elementary grades but in the teaching of languages in the university. Work being done in my own organization will go a

long way in helping to standardize the development of computer-aided instruction materials. We are developing a common programming language (19) which should be used by most researchers and developers in the computer-aided instruction area. Shortly this new language will be available for wide distribution throughout the education community. But, as Suppes pointed out, work on computer-aided instruction is barely a decade old, and it will undoubtedly still be several decades before this technology is ready for wide adoption. But one can predict that it will be resisted by the same conservative forces which have resisted the introduction of most technology in institutions of higher education.

Even though technological innovations should be playing a larger role in instruction, I would also like to emphasize that there is still a great deal to be learned regarding effective classroom instruction (20). The use of tutors, deliberate instructor training, experiences in the work situation, involvement in the community, and other new methods being experimented with, will have to be widely adopted if classroom instruction is to have the relevance demanded by students today. In short, we must not only embrace instructional technology, but we must look upon instruction as involving skills which must be deliberately learned if we are to make significant progress in meeting the demand for higher education.

VI. CONCLUSION

In his syndicated column Max Lerner (21) recently wrote, "The biggest single development in the new climate of the university is the open admissions policy, which opens the colleges to almost anyone who can somehow get through high school... the problem of open admissions now is how to keep the new students from being flunked out (probably through an elaborate system of tutors), how to finance the whole operation, and how to keep the total intellectual level of the university from sagging badly." It seems to me his comments are quite consistent with the points I have been making throughout this paper. If the individual institution of higher education intends to cope with these changing times, then it must have a planning program which is geared to these changes. If it ignores this need, it does it at the risk, not only of its own future, but of the future of society itself.